

REMARKS

Claims 1, 6-9, 11, and 22 have been amended. Support for the amendments to the claims may be found throughout the specification. No new matter has been added. Claim 5 has been cancelled without disclaimer of the subject matter contained therein or prejudice to Applicants' right to file any continuation applications directed thereto. Upon entry of this Amendment, claims 1-4, and 6-22 remain pending.

In the Office Action dated December 15, 2006, claims 1-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over del Puerto et al. (U.S. Patent Application Publication No. 2003/0082466) in view of Fuse et al. (U.S. Patent No. 5,217,501). Applicants respectfully traverse this rejection.

Independent claim 1 recites a lithographic projection assembly that includes, *inter alia*, "at least one load lock constructed and arranged to transfer an object between a first environment and a second environment, an object handler comprising a handler chamber in which said second environment prevails...and a lithographic projection apparatus comprising a projection chamber." Claim 1 also recites that the handler chamber and the projection chamber can communicate for transferring of the object between the handler chamber and the projection chamber, and that the load lock comprises a load lock chamber which is provided with at least two mutually distinct object supports, each object support comprising a support plate and being configured to individually support the object. Claim 1 further recites that the load lock chamber is provided with "a positioning device constructed and arranged to decrease the distance between one of said support plates and a ceiling plate of the load lock chamber prior to and/or during evacuation of said load lock chamber, and to increase said distance between said support plate and said ceiling plate prior to said object being removed from or delivered to said at least one of said object supports." Applicants respectfully submit that a *prima facie* case of obviousness has not been established by the Examiner, because the combination of del Puerto et al. and Fuse et al. does not disclose, teach, or suggest all of the features of claim 1, there is no motivation to combine the references in the manner that the Examiner has proposed, and there is no reasonable expectation that such a combination would be successful.

Del Puerto et al. discloses a lithography system (100) that includes two alignment load locks (104, 105), a wafer exchange chamber (106), a patterning chamber (111), and a holding load lock (114). *See* del Puerto et al. at [0030]-[0034]. The wafers are supplied to the alignment load locks (104, 105) via a track (101). *See* del Puerto et al. at [0030]. A robot (109) is located in the wafer exchange chamber (106) and is used to transfer wafers to from

the alignment load locks (104,105) to the patterning chamber (111). *See* del Puerto et al. at [0031]-[0034]; FIG. 1. Del Puerto et al. also discloses that the wafer (207) may be supported by wafer supports (204, 205, 206) and clamped on a chuck (211) within the alignment load locks (104, 105). *See* del Puerto et al. at [0039]-[0040]; FIG. 2A. Each of the alignment load locks (104, 105) is configured to perform an alignment of the wafer that enters the alignment load lock from the track (101). *See* del Puerto et al. at [0031], and [0039]-[0047]. The specific configurations of the alignment load locks (104, 105) are illustrated in FIGs. 2A and 2B, and are described by paragraphs [0039]-[0047] of the specification.

As conceded by the Examiner, del Puerto does not disclose “a load lock chamber which is provided with at least two mutually distinct object supports, each object support being configured to individually support said object.” *See* Office Action at page 3, lns. 13-16. There is absolutely no indication in del Puerto et al. that two wafers may even be handled in a single alignment load lock at the same time, or that there would be any reason to complete two alignments on two different wafers within the same alignment load lock, hence the reason for two separate alignment load locks.

Fuse et al. teaches the use of wafer stockers (71, 72) that are capable of stocking a number of wafers (20) within a load lock chamber (44). *See* Fuse et al. at col. 4, lns. 26-28 and FIG. 2. Although the wafer stockers may possibly be provided on the opposite side of the track (101) of del Puerto et al. as the alignment load locks (104, 105) such that wafers may be unloaded from the wafer stockers and provided to the alignment load locks (104, 105) by the track (101), Applicants respectfully submit that one of ordinary skill in the art would not be motivated to put such a stocker within the alignment load locks (104, 105) of del Puerto et al. Such a combination would not allow for the alignment process to be completed within the alignment load locks (104, 105) as they are described in del Puerto et al. Thus, providing the wafer stockers of Fuse et al. within the alignment load locks of del Puerto et al. would change the principal operation of del Puerto et al., and there is no reasonable expectation that the presence of the wafer stockers within the alignment load lock of del Puerto et al. would allow the alignment process described by del Puerto et al. to be successful.

Moreover, neither del Puerto et al. nor Fuse et al. discloses, teaches, or suggests a positioning device constructed and arranged to decrease the distance between one of the support plates of the object support and a ceiling plate of the load lock chamber prior to and/or during evacuation of the load lock chamber, and to increase said distance between the

support plate and the ceiling plate prior to the object being removed from or delivered to at least one of the object supports, as recited by claim 1.

Accordingly, Applicants respectfully submit that claim 1 and the claims that depend from claim 1, which include additional advantageous features, are patentable over del Puerto et al. in view of Fuse et al. because a *prima facie* case of obviousness has not been made by the Examiner, and respectfully request that the rejection to claims 1-4, and 6-21 be withdrawn.

Independent claim 22 recites a lithographic projection assembly that includes, *inter alia*, “at least one load lock constructed and arranged to transfer an object between a first environment and a second environment; an object handler comprising a handler chamber in which said second environment prevails,... and a lithographic projection apparatus comprising a projection chamber.” Claim 22 also recites that the handler chamber and the projection chamber can communicate for transferring of objects between the handler chamber and the projection chamber, and that the load lock comprises a load lock chamber which is provided with at least two mutually distinct object supports, each object support comprising a support plate and being configured to individually support the object. Claim 22 also recites that the load lock chamber is provided with “a positioning device constructed and arranged to decrease the distance between one of said support plates and a ceiling plate of the load lock chamber prior to and/or during evacuation of said load lock chamber, and to increase said distance between said support plate and said ceiling plate prior to said object being removed from or delivered to said at least one of said object supports.” Claim 22 further recites that the object handler is integrated in the load lock, so that the handler chamber and the load lock chamber are a single unit.

Applicants respectfully submit that a *prima facie* case of obviousness has not been established by the Examiner, because, as discussed above, there is no motivation to combine the reference in the manner that the Examiner has proposed, and there is no reasonable expectation that such a combination would be successful. Moreover, the combination of del Puerto et al. and Fuse et al. does not disclose, teach, or suggest all of the features of claim 22.

For example, neither del Puerto et al. nor Fuse et al. discloses, teaches, or suggests that the load lock chamber is provided with a positioning device constructed and arranged to decrease the distance between one of the support plates and a ceiling plate of the load lock chamber prior to and/or during evacuation of the load lock chamber, and to increase the distance between the support plate and the ceiling plate prior to the object being removed from or delivered to at least one of the object supports.

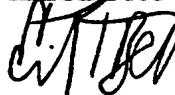
In view of the foregoing, Applicants respectfully request that the rejection to claim 22 be withdrawn.

All rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited. If any point remains at issue which the Examiner feels may best be resolved through a personal or telephone interview, please contact the undersigned at the telephone number below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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